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The Use of Glass Wool Plugs during Kjeldahl Nitrogen Analyses

When organic nitrogen is determined by the Kjeldahl procedure, precautions must be taken to prevent sulfuric acid fumes from contaminating the laboratory. Usually an exhaust fan is used for this purpose; either the necks of the boiling flasks are placed in an exhaust manifold or the analysis is conducted in a ventilated hood. Another procedure consists of plugging the necks of the boiling flasks with commercially available tubes made of a porous ceramic substance. If the tubes do not fit tightly, however, they may be blown from the flask.

We have discontinued use of ceramic tubes, in favor of plugs of a borosilicate glass wool. This material conforms exactly to boiling flask necks of any size, either tooled or untooled, and effectively prevents the escape of sulfuric acid fumes. We have used the plugs in many thousands of analyses and have yet to experience a blow-out. The number of analyses that can be made at one time is not limited by available manifold or hood space, but only by laboratory working space.

Bureau of Commercial Fisheries
Biological Laboratory
Galveston, Texas 77550

K. T. Marvin and R. R. Proctor, Jr.